# Best Available Retrofit Technology (BART)

MassDEP SIP Stakeholder Meeting

January 31, 2006

# Applicable Rules

- Final 1999 Regional Haze Rule (7/1/99)
- Final Clean Air Visibility Rule (6/20/05)
  - Preamble
  - Final BART Guidelines

# Best Available Retrofit Technology
# Section (e) of 40 CFR 51.308

- List all BART-eligible sources
- Determine if sources contribute to visibility impairment – those sources will require BART
- Determine BART for each source
- Justify sources that are exempt
- May examine/establish a trading program

# BART- eligible Sources

1. Are in one of 26 source categories as identified in the Clean Air Act

2. In existence before August 7, 1977 *and* commenced operation after August 7, 1962

3. Have the potential to emit of 250 TPY or more of any single visibility impairing pollutant from units that satisfy criterion #2. These pollutants include $SO_2$, $NO_x$, $PM_{2.5}$ and under some circumstances VOC's and ammonia

# 26 BART Categories

- Power Plant[1]
- Coal Cleaning
- Kraft Pulp
- Portland Cement
- Zinc Smelter
- Iron and Steel
- Aluminum Ore
- Copper Smelter
- Incinerator[1]
- Acid Plant
- Oil Refinery
- Lime Plant
- Phosphate Rock
- Coke Oven
- Sulfur Recovery
- Carbon Black
- Lead Smelter
- FuelConversion
- Sintering
- Secondary Metal
- Chemical Plant[1]
- Boilers[1]
- Petrol. Storage[1]
- Taconite Ore
- Glass Fiber
- Charcoal Production

[1] In Massachusetts

# What BART- eligible sources are subject to BART? (3 options)

1. All BART-Eligible sources are subject to BART (MANEVU recommendation)
2. No BART-Eligible sources are subject to BART
3. CALPUFF-Type screening analysis to exempt individual sources

# BART Engineering Analysis

- Required for each BART-eligible unit at a facility
- Required for each pollutant ($SO_2$, $NO_x$, $PM_{2.5}$ and under some circumstances VOC's and ammonia) emitted from each BART-eligible unit at a facility

# BART Engineering Analysis

- Identify all available retrofit control technologies
- Eliminate technically infeasible options
- Evaluate control effectiveness of feasible control technologies
- Evaluate costs, energy impacts, non-air quality environmental impacts and remaining useful life of facility
- Evaluate visibility impacts (develop modeling protocol and run CALPUFF model with pre-control and post-control emission rates)

# Select BART Controls

- Document BART engineering analysis

- Prepare charts and tables comparing:
  - control effectiveness
  - costs of compliance
  - energy impacts
  - non-air quality environmental impacts
  - remaining useful life of facility
  - net visibility improvement

- Select and justify best alternative control system

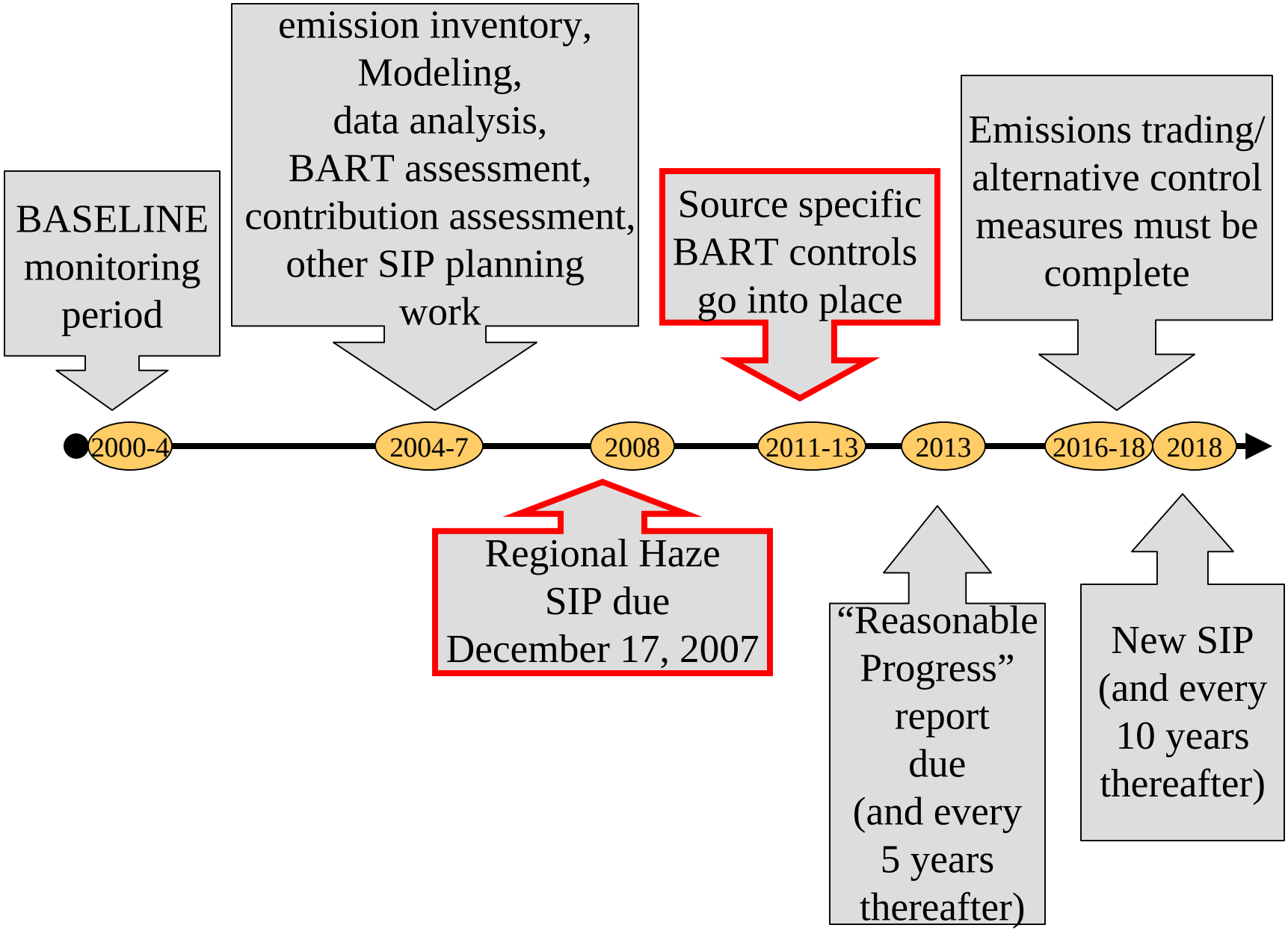
# Presumptive BART for all 200 MW units at 750 MW EGU facilities

- EPA Presumptive control for $SO_2$ - 95% control or 0.15 lb/MMBtu for coal, 1% sulfur content for oil
- EPA Presumptive control for $NO_X$ - Extend the use of NOx controls year-round in the NOx SIP Call area (0.15 lb/MM Btu)
- MANEVU recommended controls for PM - 0.02 lb/MMBtu

# 310 CMR 7.29
# Power Plant NOx and SO2 Limits
# (pounds per MWhr)

| Compliance Dates | NOx | SO2 |
|---|---|---|
| 10/1/04 – 10/1/06 | 12-month – 1.5 | 12-month – 6.0 |
| 10/1/06 – 10/1/08 | Month – 3.0 | 12-month – 3.0<br>Month – 6.0 |

# REGIONAL HAZE SIP TIMELINE



# What's next?

- Review BART Resource Book[1]
- Finalize list of all BART-eligible sources
- Contact owners of BART-eligible facilities

[1] A guidance document prepared by NESCAUM to assist states and BART source owners with BART engineering analysis